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PAPERS
IN
MANUFACTURES.

The SILVER MEDAL, and TEN GUINEAS, were this Session voted to Mr. SAMUEL BARRALET, Cole Harbour-street, Hackney-road, for an improved Shop-board, for Tailors, by which the Diseases are obviated to which this class of Men are particularly subject. The following Communication was received from him, an explanatory Engraving is annexed, and a Model of the Shop-board is preserved in the Society's Repository.

To the Society for the Encouragement of Arts, Manufactures and Commerce.

GENTLEMEN,

I BEG leave to lay before you, an humble design, modelled according to the prescribed rules of one inch to a foot, a method, by mechanism, to work at the *Tailor's* business, either standing or sitting, with equal ease and dispatch,

dispatch, as the present mode, which is pretty generally understood to be very unwholesome, many thousands having fallen a prey to it in the present and past generations. Health being the greatest blessing that can be bestowed on man, it becomes the mind, ennobled by generous sentiments, and love to human kind, to study the promotion of this treasure; such, I trust, this system will appear to the world at large. I am not so sanguine as to suppose, that all tailors will adopt my mode, but as the means are very cheap, and it gains general knowledge, I hope that the rising generation will endeavour to establish it for the comfort, convenience, and, above all, for the health of every individual who practically fulfils his duty to the public in that branch of business; and when called for to more manly exercise, may be enabled thereby, with equal vigour and renovated strength, to perform his part. As a proof of what I advance, I have myself followed this method near nine months, and have found it of exceeding great benefit. I once laboured, from the inconvenience of working at the business in a fixed position, under the most excruciating aches and pains; and am happy in stating, that by the contrivance I allude to, I work day after day, and am entirely free from such distressing afflictions. I therefore recommend it, with confidence, to the attention of your Society, that it may, under their sanction and approbation, be brought into use among the numerous class of workmen who follow the tailoring business.

The model I do myself the pleasure of sending for your inspection, represents a tailor's board, 15 feet by 7 feet, being calculated to seat, comfortably, seven men, and in cases of great emergency, nine or ten. The four
square

square holes are the front seats of the window, to which is annexed two other seats for three people to work at one garment, a thing very common in this business, the cushion forming a triangle. The bevelled square hole, from the right hand corner, supposing one stand at the back edge of the board, being the most conspicuous, I have made the finished model for a man, standing, from four feet 10 to 5 feet high, all above that measure will not need such a stool. The side legs are morticed in three separate heights, as all the legs must be for the convenience of the men, which may be fixed higher or lower as required. The use of these feet-holes are for pressing. The tailor places himself upon the seat of the board, and rests his feet upon the tenon holds: puts the sleeve-board across his knees, having previously unscrewed his cushion and let it fall down close to the board: all which may be done in less than one second, and in as little time as fixing himself cross-legged; for he is obliged now to button his knees to fetch the iron, and again to unbutton them, and also his braces; but in this way he will always be ready, at any moment, to start and appear decent like other working men. The standing position is extremely easy; for instance, suppose the operator to stand in the hole, perpendicular, raising his cushion to the waistband of his small-cloaths, screwing it steady with his right hand, advancing his breast, for health sake, entirely throwing off the old plan of stooping, (to which journeymen tailors are all too much inclined) and only directing the head and eyes to the cushion, standing perfectly free and easy. The cushion pushed to the extent of the slide hole, and when tired of standing on one or two feet, resting each in turn on the stool. The operator can seat himself by a
brisk

brisk spring, drawing the cushion after him with his right hand, and with his feet draw the stool, which is to be a moveable one, towards him, till he finds himself perfectly easy; all which may be done, when used to it, without knowing such a change has taken place.

I would recommend all tailors to stand as much as they can, and not to yield till their legs swell a little, then have recourse to sitting, till well used to it, when they may stand for many hours, it being most conducive to health, and the one posture is as easy as the other.

Having, I hope, fully explained the position of pressing and sewing, I wish next to shew how marking may be performed. The tailor must have a clear board, to lay his garment before him; he must unscrew the cushion, and draw it clear out, laying it aside till he has done fitting and marking, when he must resume it again. The three holes, at the back edge of the board, are so placed as to gain light between the front men. The candle-light system is the next thing to be considered: There are seven or eight men, and of course the same means are to be resorted to, of every man moving from his seat but two, to those round the candle-block, as will appear by referring to the model; each will gain the same light as in the present system. I judged it best to describe a board 15 by 7, as I have exactly ascertained the quantity seated, and their places. The trade being so numerous, it was necessary to trespass on your room, in order to show how all may be accommodated. I deem it unnecessary to have the sliding apparatus fixed to every hole, which must be when in actual use; as many as please may sit cross-legged, while others stand, so that cripples will not be rejected by this mode. Much more might be said in its
favour,

favour, but I leave it to the judgment of every individual, and more especially to the good sense of the Society.

I am, Gentlemen,

Your obedient humble servant,

SAMUEL BARRALET.

*No. 4, Cole Harbour-street, Hackney-road,
March 15th, 1819.*

To the Society for the Encouragement of Arts, &c.

CERTIFICATE.

To the Chairman of the Committee of Mechanics, Society
for the Encouragement of Arts, Manufactures and
Commerce.

SIR,

WE, whose names are hereunto subscribed, waited on Mr. Barralet last night, to inspect the practical use of the Tailor's Shop-board invented by him, the model of which was exhibited to your Committee last Thursday evening; and after having minutely examined the same, and tried its operations in the various ways necessary for the sewing tailor, are of opinion, that its benefits would be considerable, if the invention was generally adopted, both for the ease and health of journeymen tailors; inasmuch as it prevents the compression of the lungs, and affords the means of at least three changes of position, which the present mode entirely precludes.

Should there be any defects in its present state, practical

tical experience will no doubt remove them, and suggest further improvements.

JAMES JACKSON, Bedford-street, Covent-Garden.

JAMES HOOD, Cork-street, Burlington Gardens.

JAMES M'KELLOR, Cecil-street, Strand.

WILLIAM CRAVEN, Cecil-street, Strand.

* * THE Society, aware of the great difficulties which all new inventions have to combat against prejudice in favour of any particular plan which had heretofore been adopted, feel great pleasure in stating, that Mr. Jackson has informed them, that the shops of *Messrs. Rutherford*, in Poland-street, have been fitted up after Mr. Barralet's plan; and that the health of the men so employed has, in consequence, been considerably benefitted.

Reference to the Engraving of Mr. SAMUEL BARRALET'S Shop-board, to enable Tailors to Work either in a standing or easy sitting Posture, at pleasure. Plate 7. Fig. 1, 2, 3, 4.

AA, fig. 1, represents a large table, 15 feet long, and 7 feet wide, with several apertures in it, for as many different workmen; and before each is a cushion, mounted on a stem, which is adjustable, in height and distance, to be most convenient for the work, which is pinned or laid upon it. At each end of the table four square holes are situated together, as marked at *aaaa*, and *bbbb*: and in the center, between them, is a hole for the reception of

of the stem of a candlestick *d*; see also fig. 4, which therefore serves all the four workmen. The cushions *ee*, are stuffed, and covered with cloth, being mounted on upright stems *f*, fig. 2; these pass through grooves in the table, and each is fitted through a piece of board *g*, fig. 2, which is situated beneath the table; and slides in a groove, formed by two pieces of wood *h h*, nailed fast thereto, and being rabbetted to keep the board in its place; the stem *f* is at liberty to slide up and down, through the board *g*, and this, sliding along, allows the cushion to be set at any height above the table, or any distance from the workmen. In some parts of the board three workmen are placed together, as at *kk*, one cushion being placed between them; if they are all wanted to work at one garment, it is then made triangular, as fig. 3. In other parts of the bench are single standing places, as at *ll*; these are to be placed before the window, for day-light work, the four at *aaaa*, being situated so close to each other for the sake of the common light from the candle. The stem of the candlestick, fig. 4, is cut into a screw, upon which a round block *r* is fitted, and this carries the nozzles for two or three candles, which can, by turning the block round, be set at any required height. The workman may stand upright upon the floor; or, when tired of that position, may sit upon the edge of the table, and place his feet upon the foot stool *mn*: there are also four legs *nn*, surrounding the four holes *aaaa*, and in these mortises are made, for the reception of tenons, upon pieces of wood, which project a few inches; these are for the supports of his feet, when seated upon the table, so as to elevate his knees sufficiently to use the board, and hot iron, for pressing down seams. The holes have covers fitted into them, when they are not in use, so

as to make a large table, to cut out work upon, &c. As well as preserving the health of the workmen, there is no doubt they will be enabled, by this method, to work much more conveniently, by placing their work upon these cushions, than by the awkward and unhealthy mode of sitting cross-legged, on a shop-board, for the mere purpose of having their knees to support the work; though there is no weight or difficulty of holding it, to authorize such a position, as might have been urged in favour of the posture used by shoemakers, before the numerous contrivances which the Society have presented to the public were produced, which have been found to succeed so extremely well, in every respect, that such machines are now becoming very general in that trade. It is to be hoped the tailors will follow their example, for which they have every inducement; as the apparatus is of so simple a nature, and so trifling in its expense; and the advantages it promises, in health and ease, are so considerable, that they ought to effect the exclusion of the common method, which is little more to be recommended than that of the Chinese joiners, who, instead of using a work-bench, sit upon the ground, and place the board of wood against their belly, holding it with their feet, whilst they work it!

The

The SILVER MEDAL of the Society was this Session voted to Mr. JOSEPH DAVIS, of Catherine-street, Strand; for a safe and economical Mode of burning Shavings, in Workshops, and converting them to useful purposes. The following Communication was received from him, an explanatory Engraving is annexed, and a Model of the Apparatus is preserved in the Society's Repository.

SIR,

THE great number of manufactories destroyed by fire, in consequence of the large quantities of loose shavings, of carpenters, joiners, cabinet and musical instrument makers, &c. in the shops, the men not liking the trouble of burning them, in the common way, and it not being at all times convenient for the porters to remove them, they frequently accumulate to a dangerous extent, which was the cause of the fires at Messrs. Clementi and Co.'s, and at Messrs. Wilkinson and Co.'s, in Oxford-street.

To prevent such risks I have tried several experiments, and have accomplished a method which far surpasses my most sanguine expectation.

The machine, for the above purpose, is made of plate iron, one foot diameter, sixteen inches high, in a cylindrical form, with a flat top, having a round hole in it, the size of the cover for the stove on which it is fixed, that the cover may answer for both purposes. It has an iron handle, with ears like a pail, to take it off the stove with, when not wanted.

By this invention the shavings become a valuable fuel;

the work can be done much superior than by coals, and the risk of fire is in a great measure done away.

I shall be happy to shew any gentleman the improvement, in use at my manufactory, in Catherine-street, Strand.

I am, Sir,

Your obedient servant,

JOSEPH DAVIS.

Catherine-street, Jan. 12th, 1813.

TO C. TAYLOR, M. D. SEC.

SIR,

SINCE I had the honour of waiting on the Committee of Mechanics, on Thursday last, I have endeavoured to ascertain the true merits of the invention, by farther experiments in the presence of a number of friends, and also of Mr. Gill, one of the Chairmen of the Committee of Mechanics, when the cylinder, 13 inches diameter, and 15 inches in height, being about 7-8ths filled with shavings, burnt for more than half an hour, and produced a degree of heat much greater than from coals.

Before I discovered this means of consuming shavings, the men, in the winter season, could not have the veneers, cauls, &c. ready in the work-shop in a proper state to be put together till the middle of the day, which may now be done in one hour; and in the evening it was necessary to make a very large coal fire at the time the men were leaving work, that being the time they generally completed their largest glueings for the day, in order that they might have the advantage of the night to set the work, to be ready the next morning to clean off. In using a coal fire, there is not only a great risk from the shavings
not

not being consumed, but lying about the shop, but the fire when put out with water in that state, often occasions the cast iron parts of the stove to crack: the cylinder removes the danger of the one, and the inconvenience of the other, as the men can at pleasure regulate the heat, or duration of it, by putting in the shavings; as, for example,—if the cylinder be one-fourth filled, it will give a strong fire for five minutes; if one-half, for fifteen minutes; if filled close, for three quarters of an hour; and when done with, the sweepings of the shop will remain burning, if not put out with water, for one hour longer. I have one now making on the plan of that shown in the drawing,—it will cost ten shillings, and with a little alteration may be applied to any stove where great heat is wanted, and if cinders or ashes be mixed with the shavings, it will burn (though not so brisk,) for several hours; but requires a little more attention to prevent it from smoaking, by keeping the pipe clear, and putting in small quantities.

I have stated the above particulars, conceiving they will be of great use to many manufacturers and others.

I remain, most respectfully,

Sir,

Your obedient humble Servant,

JOS. DAVIS.

Catherine-street, Strand,

Feb. 4th, 1813.

To C. TAYLOR, M. D. SEC.

CERTIFICATES.

WE hereby certify, that we have seen Mr. Davis's invention in use, and consider it a great security against ac-

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cidental fires in manufactories, by its consuming the shavings as they are made; that it is a saving of fuel, and a superior mode of preparing the work before it is put together.

JOSEPH HAMMERSLEY, cabinet-maker, Great
Prescot-street.

GEORGE ASTOR and Company.

GEORGE PRYER, cabinet-maker, No. 30,
Brydges-street.

WILLIAM STRATTON, stove-grate-manufacturer,
Gutter-lane.

D. W. HARLEY, musical-instrument-maker.

J. W. MOORE, ironmonger, Bridges-street.

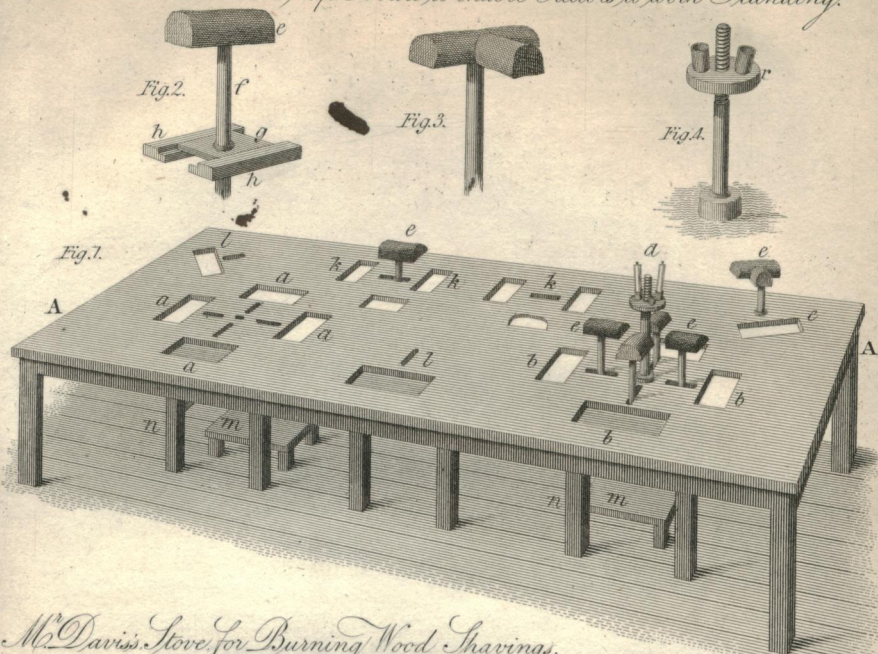
JOHN ABDEY, organ-builder.

Jan. 12, 1813.

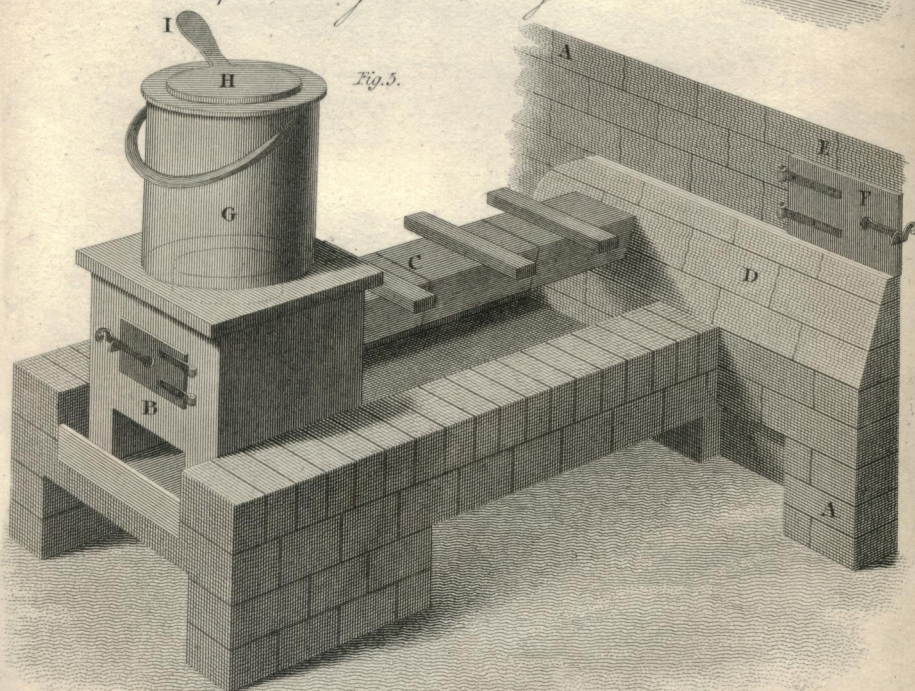
*Reference to the Engraving of Mr. Davis's Stove,
for Burning Wood Shavings, in Carpenter, Joiner,
Cabinet, and Musical-Instrument-maker's Work-
shops.—Plate 7. Fig. 3.*

THE object of this contrivance is to employ shavings as fuel, instead of coal, by such a construction of the stove, that they will not blaze away too fast, as they do in an open fire, making an intense heat, but only of a momentary duration. This is effected by putting the shavings into a sheet iron cylinder, closed at top, which is fitted into the top of a stove, very similar to those always used in such situations for burning coals; and the flame produced by the shavings passed through flues conducted
in

Mr. J. Barralet's Shop Board to enable Tailors to work Standing. PL. 7



Mr. Davis's Stove for Burning Wood Shavings.



in the usual manner; the air which supports the combustion being supplied through the bars of the grate. Fig. 5 of Plate 7, is a perspective view of this stove, in which A A represents part of the interior wall of the workshop where the stove is placed.

B, the stove, which is made 12 inches wide, and 1 foot 3 inches high: it is of cast iron, and lined with fire tiles, having a door or fire-grate, with an ash-pit, beneath, in the usual manner; C, the sheet iron pipe, 6 in. wide and 4 in. deep, which conveys the smoke and flame from the stove into the brick flue at D, and this leads into the chimney at E; F is an iron door opening into the chimney, for the sweeping machine, or boy, to pass through, to sweep the chimney; G, the sheet iron cylinder, in which the shavings are put to be consumed, which is about 9 inches in diameter, and 16 inches high: it is placed over a circular aperture in the top of the stove B, and has a neck shewn by the dotted lines to fit in the hole of the top of the stove, to prevent the sparks of the shavings from flying out into the workshop. The cylinder is covered at top with a lid H, having also a neck, which is removed at pleasure by its handle I, to put in a supply of shavings; this fits very close, and as no air can pass by it, a sufficient draught to burn the shavings, but slowly, is afforded by the air passing through the bars of the grate, which is impeded by the ashes which may be therein; but this flame may be increased to a rapid combustion when necessary, by opening the door of the stove; the flame passes along the flues C and D, and gives out an equable heat to the room. Iron bearers are fixed across the flue C, which may be used to support any work which requires drying, or for any other purpose of this kind.

The supply of this stove with fuel from shavings, is

attended with so little trouble, and is such an advantage to the workmen, that they will always prefer burning the shavings to coals; so much so, that where 10 men are at work, there is a difficulty to collect shavings sufficient even to light the fire the next morning.

By this means, the danger of fire, which has been fatal to so many manufactories, is greatly removed; the loose shavings being consumed as soon as they are made, and that in lieu of more expensive fuel; and so slow are the shavings consumed, that the iron cylinder will hold enough, when crammed full, to supply the fire for upwards of half an hour. To guard the workshops still more effectually from danger, the stove and its iron flue is supported upon a mass of brick-work, which prevents any sparks, &c. from falling upon the floor; and the sides of the brick-work afford very convenient shelves on which to lay any wood-work that requires heating, drying, &c. and when a greater heat is required to extend to a considerable length horizontally, as, for instance, four or five feet, by merely putting a few shavings into the cylinder frequently, in place of filling it, they become converted into flame, which is carried the whole length of the iron flue, heating it uniformly throughout. No soot lodges in the flue, but merely light ashes, which can be easily cleared out from time to time, as may be necessary.